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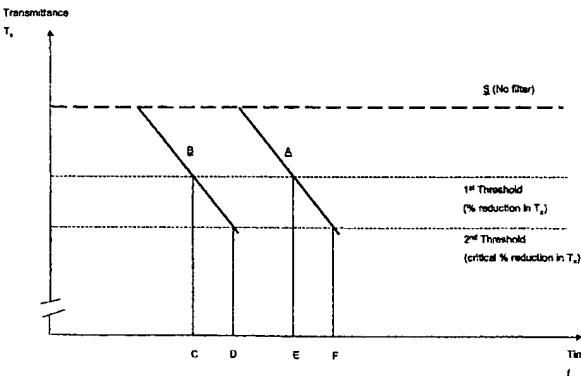
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(54) Title: METHOD AND SYSTEM FOR A FILTER



(57) Abstract: The present invention relates to a system for determining particle transmittance  $T_x$  of a filter for use with a particle detection system to provide a filter warning for aspirated particle detection systems by detecting a level of first particles having a size indicative of smoke particles and which pass through the detection system; determining an integrated smoke hours value by integrating the detected level of first particles over time; estimating the smoke particle transmittance  $T_x$  of the filter by applying a predetermined weighting operation to the integrated smoke hours value. An empirical measure of a filter's particle transmittance  $T_x$ , due to at least first particles having a size indicative of smoke particles may be achieved by way of integrating a level of such first particles passing through a particle detection system over time to determine the proportion of smoke particles arrested by a filter, "integrated smoke hours". The "integrated smoke hours" value is, generally, a measure of cumulative filter blockage over time by smoke like particles and is a measure of a given amount of ambient smoke detected and recorded by a smoke detector system and integrated over the time of exposure of the smoke detector system to the ambient smoke. Using this method it is not necessary to infer the actual "filter load" per-se or, the actual particle mass trapped in the filter.

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